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Additional Resources

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Additional experts	
Short Description/ Transmitted Information	• OPC UA is a platform-independent standard through which various kinds of systems and devices can communicate by sending request and response *Messages* between *Clients* and *Servers or NetworkMessages* between *Publishers* and *Subscribers* over various types of networks. It supports robust, secure communication that assures the identity of *OPC UA Applications* and resists attacks.
Application Scope	• OPC UA is applicable to components in all industrial domains, such as industrial sensors and actuators, control systems, Manufacturing Execution Systems and Enterprise Resource Planning Systems, including the Industrial Internet of Things (IIoT), Machine To Machine (M2M). These systems are intended to exchange information and to use command and control for industrial processes
Maturity	• Productive Usage
Goals	• OPC UA provides a consistent, integrated *AddressSpace* and service model. This allows a single *Server* to integrate data, *Alarms* and *Events*, and history into its *AddressSpace*, and to provide access to them using an integrated set of *Services*. These *Services* also include an integrated security model.
Penetration	• Individual domains (industrial automation)
Visibility	• >80% well, known in industral automation
Promoting Bodies	• OPC Foundation, Inc.
Type	• Interoperability Standard
IT Standard Classification	• IEC 62541
Data Format	• XML / text , UA / Binary , JSON

Relations to other standards	• IEC 61850, IEC TC57, IEC 60802
Overlap with other standards	• partly, like standards for communication protocols etc.
Available accompanying documentation (Software vendors)	• Multiple : Books, Whitepapers, Wiki's, Specification, Examples, Online References • https://opcfoundation.org[1] → Resources
Available accompanying documentation (Industry Users)	• Multiple : Books, Whitepapers, Wiki's, Specification, Examples, Online References • https://opcfoundation.org[2] → Resources
Available accompanying documentation (Management)	• `Brochure OPC UA: Interoperability for Industrie 4.0 and the Internet of Things` • https://opcfoundation.org/wp-content/uploads/2017/11/OPC-UA-Interoperability-For-Industrie4-and-IoT-EN.pdf

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OPC UA defines a common infrastructure model to facilitate information exchange.
OPC UA specifies the following:

- The information model to represent structure, behaviour and semantics.

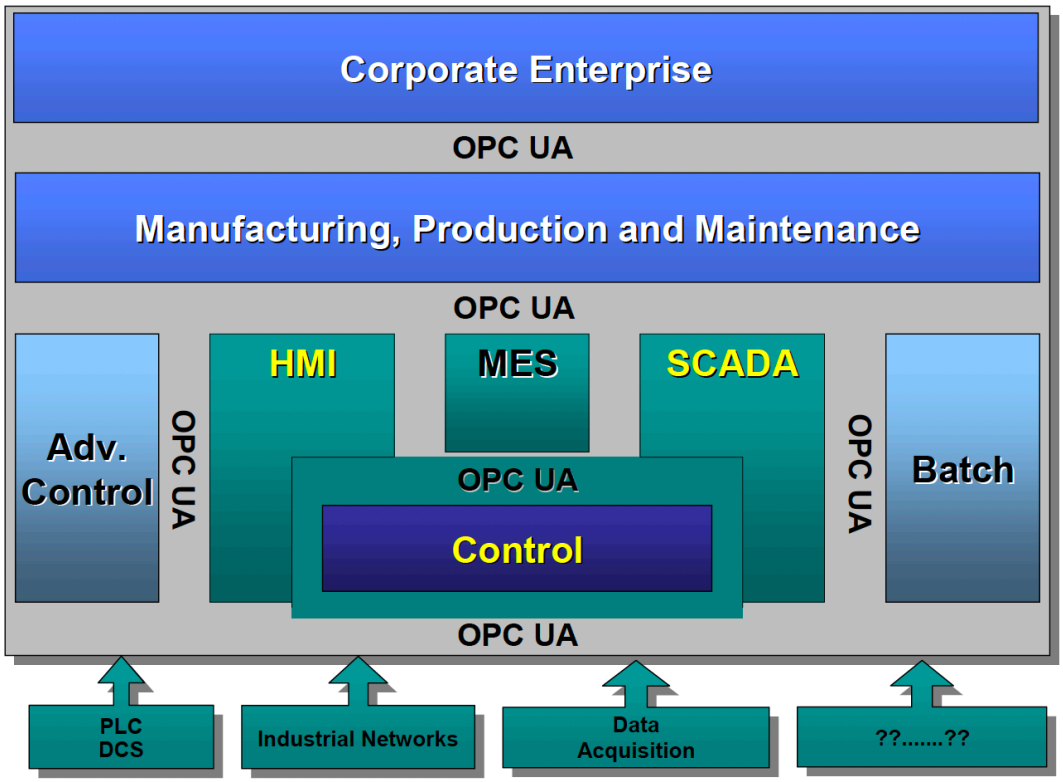
- The message model to interact between applications.

- The communication model to transfer the data between end-points.

- The conformance model to guarantee interoperability between systems.

As illustrated OPC UA is not targeted at just the SCADA, PLC and DCS interface, but also as a way to provide greater interoperability between higher level functions.
Batch OPC UA Manufacturing, Production and Maintenance i,iiOPC.

1 https://opcfoundation.org/
2 https://opcfoundation.org/



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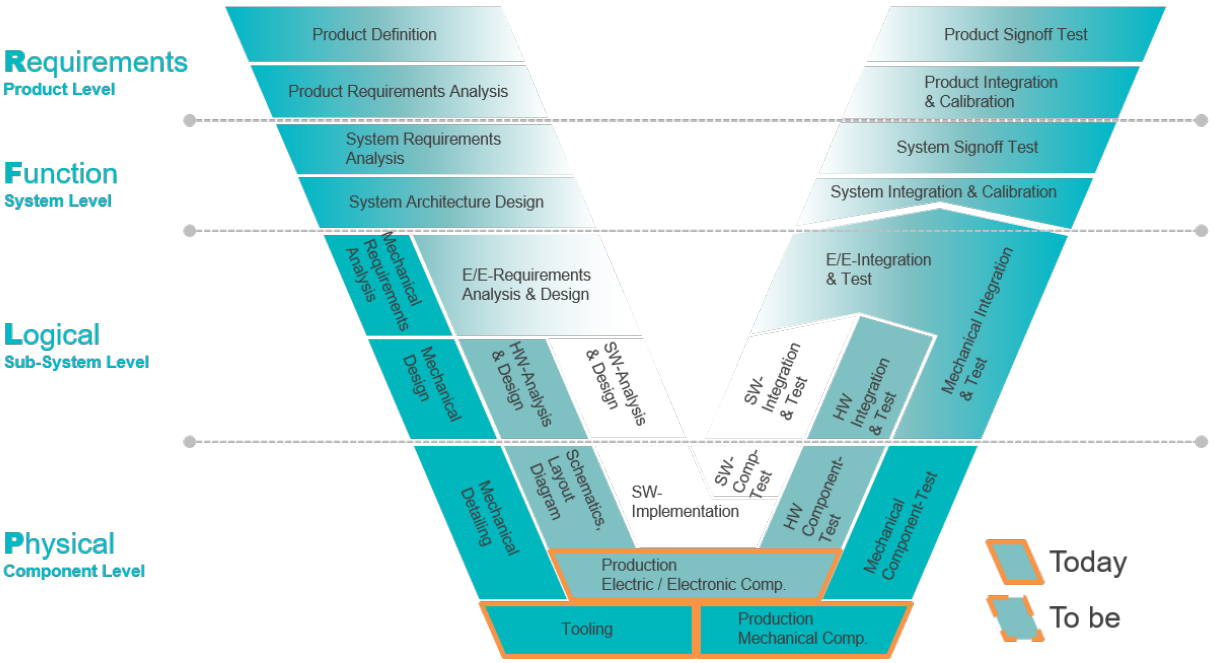
Positioning of OPC UA in V-Model



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- Beside of application in industrial automation, OPC UA can be applied in engineering i.e. in laboratory and validation scenarios, HiL, data acquisition, but also as part of digital twin scenarios by feeding back information from operation back to engineering use cases.

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- not known

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image2020-10-30_13-45-6.png[5]	Nov. 23, 2020 by Peter Tabbert[6]
Positioning of OPC UA in V-Model.png[7]	gestern um 9:19 vorm. by Peter Tabbert[8]
Fact Sheet_ Open Platform Communication Unified Architecture (OPC UA).pdf[9]	vor weniger als einer Minute by Peter Tabbert[10]

3 https://intranet.prostep.org/download/attachments/22806682/image2020-10-30_11-44-29.png?api=v2
4 https://intranet.prostep.org/display/~petertabbert
5 https://intranet.prostep.org/download/attachments/22806682/image2020-10-30_13-45-6.png?api=v2
6 https://intranet.prostep.org/display/~petertabbert
7 https://intranet.prostep.org/download/attachments/22806682/Positioning%20of%20OPC%20UA%20in%20V-Model.png?api=v2
8 https://intranet.prostep.org/display/~petertabbert
9 https://intranet.prostep.org/download/attachments/22806682/Fact%20Sheet_%20Open%20Platform%20Communication%20Unified%20Architecture%20%28OPC%20UA%29.pdf?api=v2
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